

point deregisters the roaming device, or otherwise acknowledges that the roaming device is no longer within range of the access point, the access point creates a stop record for the roaming device in step 424. A stop record generally includes, but is not limited to including, identifying information for the roaming device, and an indication of how long the roaming device was within range of the access point, *e.g.*, the time at which the roaming device was deregistered. In the described embodiment, the stop record also includes information read from the editable text field. After the stop record is created, the process of establishing when a roaming device is within the communications range of the access point is completed.

As mentioned above, in addition to storing location or identifying information in an editable field of an access point, other types of information may generally be stored in the editable field. Other types of information that may be stored include, but are not limited to, indices or identifiers which may be used to specify the contents of an accounting record. Fig. 5 is a diagrammatic representation of an access point with an editable field which is used to store indices or identifiers in accordance with an embodiment of the present invention. An access point 502 is generally similar to access point 202 of Fig. 2, and includes a record generator 518, a database 526, and an editable, non-volatile field 522 which is stored within database 526. In the described embodiment, field 522 includes indices 540 which may be input into field 522 using a text editor such as text editor 214 of Fig. 2.

Indices 540 are used by record generator 518 to index into a table 544 which is effectively a list of information types which access point 502 may obtain from a device (not shown) within its communications range. Indices 540 are provided by a system administrator to specify the contents or entries 552 of a record 548 generated and stored by record generator 518 in database 526 or, more generally, memory associated with access point 502. Although all information listed in table 544 may be included in record 548 which may then be filtered by an accounting system (not shown) to identified desired

information, the use of indices 540 may substantially eliminate the need to filter information contained in record 548.

As shown, index 540a may be used by record generator 518 to specify that a device identifier (ID) for a roaming device is to be included in record 548. Index 540b specifies that a time, *e.g.*, a time at which a roaming device registers with access point 502 or a time at which access point 502 deregisters the roaming device, is to be included in record 548, while index 540c specifies that a port number which the roaming device is using to communicate with access point 502. Indices 540 are effectively matched against entries 552 in table 544 which, typically, correspond to types of information which access point is arranged to acquire from a roaming device. Once indices 540 are matched against entries 552, information corresponding to entries 552 may be stored in record 548.

Although only a few embodiments of the present invention have been described, it should be understood that the present invention may be embodied in many other specific forms without departing from the spirit or the scope of the present invention. By way of example, substantially any static information, or information which is provided to an access point by a system administrator or other individual, may be inputted into an editable, non-volatile text field. Further, the editable, non-volatile field may be a field other than a text field. That is, the non-volatile field which accepts information from the system administrator may be configured to accept non-text information.

While an editable, non-volatile field has been described as being stored on a database that is part of an access point, such a field may instead be stored on a database that is in communication with the access point. For instance, an access point may be coupled to an external database, or a database that is not encompassed within the access point. Information provided by a system administrator may be stored on the external database, which is accessed by the access point when records are created.

An editable, non-volatile field such as an editable, non-volatile text field which is associated with an access point enables the static information stored in the field to be maintained even when power to the access point is lost. In one embodiment, in lieu of using a non-volatile field to store static information, a volatile field may be used without departing from the spirit or the scope of the present invention. When a volatile field is used to store static information such as location information within an access point, in the event that power to the access point is lost, an administrator will generally need to re-enter the static information into the volatile field once power is regained.

In addition to configuring an access point when the access point is initially set up, *e.g.*, purchased and positioned in a desired location, it should be appreciated that the access point may be configured or reconfigured at substantially any time. For example, when the access point is to be relocated to a new location, a system administrator may input the longitude, latitude, and altitude of the new location into the editable field.

The location of an access point has generally been described as having coordinates, *e.g.*, a longitude, a latitude, and an altitude. As described above, when location information is provided into an editable field associated with an access point, the longitude, the latitude, and the altitude of the location is inputted. It should be appreciated, however, that in lieu of identifying the coordinates of the location at which the access point is positioned, the location may be identified in a variety of other ways. For instance, the location may be identified by specifying an address at which the access point is located, *e.g.*, a street address and a room number. Alternatively, the location may be identified by a name, *e.g.*, "location 12," which may be an identifier for a particular location. By way of example, "location 12" may be the identifier for a particular longitude, latitude, and altitude at which the access point is located.

The present invention may generally be applied to any suitable device. That is, an editable text field which is suitable for storing static information such as a location may be implemented with respect to devices other than access points. For instance, wireless